Contents

1. Project Title and Purpose

Project Title: Designing an Educational Memory Intervention for Individuals living with Brain Injury

Project Purpose (clearly indicate the Recommendation number and wording from the Clinical Practice Guideline):

J 5.1 Internal compensatory strategies for memory impairments

The targeted outcome of this project was to implement an educational workshop for individuals with brain injury to assist with memory compensation skills and errorless learning.

2. Project Description:

A. Methods:

In partnership with the ONF, we adapted Baycrest's Memory and Aging Program (MAP) curriculum specifically for individuals with Acquired Brain Injury (ABI). The original MAP curriculum was designed for healthy normal aging adults (seniors), whereas our target audience was individuals living with ABI. Revisions to the program consisted mainly of reorganizing the materials in order to provide an ABI tailored approach for our clients to understand and retain, as well as the addition of content relevant for individuals with brain injury.

Through interactive lectures, discussion, and practical exercises; education was provided regarding factors affecting memory, process of memory, as well as strategies to improve memory deficits.

The program table of contents was as follows:

SECTION 1: THE SCIENCE OF MEMORY

- 2 Introduction
- 6 What is Memory?
- 12 Medical Disorders and Diseases
- 14 Diet
- 16 Physical Exercise
- 18 Cognitive Engagement
- 22 Assignment: Track Your Physical & Cognitive Activities
- 24 Attitude
- 26 Stress and Relaxation
- 30 Assignment: Relaxation

SECTION 2: MEMORY STRATEGIES

- 36 SHARP
- 38 Seeing and Saying
- 40 Habits
- 42 Associations
- 44 Records
- 50 Practice Retrieval
- 52 Assignment: Memory Strategies

SECTION 3: PUTTING YOUR SKILLS TO PRACTICE

- 58 Applying Memory Strategies to Everyday Situations

- 62 Your Plan to Improve Your Memory
- 64 Assignment: Your Memory Improvement Plan
- 66 Recommended Readings
- 68 A Final Word

The contents of the program included the science of memory, memory strategies, and putting skills into practice.

The program consisted of 10-12 weekly 90-minute, facilitator led sessions (including a follow up, approximately one month later).

As Baycrest's Memory and Aging Program (MAP) curriculum is licensed, program kits were required to be purchased in order to facilitate the program. With the support and catalyst funding from the ONF, Mind Forward explored resources which included purchasing and establishing an agreement to revise Baycrest's *Memory and Aging Program for the ABI population.* Mind Forward's Psychosocial Group Leaders attended a train-the trainer workshop at Baycrest, which included a full-day workshop that provided the background information and skills to effectively deliver group interventions focused on cognitive rehabilitation.

B. Data collection Tools:

Data was collected by administering a pre and post survey at the beginning and end of every session.

Note that as part of the project we want to be able to share the tools and resources that were used. ***Please list the tools that you used and embed links to the tools/attach pdf versions to this report.*** *Indicate whether these tools were locally-developed or developed by others. Make sure that it is clear who owns the intellectual property/copyright.*

i. Tools to measure Clinical process

The clinical process was measured by reviewing pre and post knowledge tests and satisfaction questionnaires. There were four pre and post assessment tools completed, which included a knowledge test, GAD-7, PHQ-9, as well a memory self-efficacy scale. A weekly feedback summary was completed, in addition to a group evaluation.

ii. Tools to measure Clinical outcome

We measured our success by administering three questionnaires before and after the intervention. These questionnaires included a knowledge test, GAD-7 (anxiety questionnaire), and PHQ-9 (depression questionnaire).

iii. Tools to measure Implementation process

iv. Tools to measure Implementation outcome

C. Findings (process and outcome):

Overall, clients improved in their knowledge of memory impairments. They also reported the program as being extremely satisfactory.

There was a total of 21 clients enrolled in the group (9 Mississauga, 4 Halton and 8 Orangeville). The total number of participants that completed the group was a total of *N*=14 (the clients that did not complete post measures were not included).

Individual client responses on feedback forms and individual progress reports included the following testimonials:

Client A reported that several of the memory strategies learned are helpful to her including note taking, habit forming, and word association.

Client B reported to appreciate the review of the memory strategies and mentioned that habit forming was a strategy that he found most helpful.

Client C reported to appreciate the review of the memory strategies and mentioned that word association was a strategy that he further developed. He also appreciated the discussion regarding how stress and other variable can negative impact his memory.

Client D reported to appreciate the review of the memory strategies and mentioned that word association was a strategy that he further developed.

D. Summary:

There exists a great need for individuals with brain injury and memory impairments to learn more about how having a brain injury can affect your memory. While not all clients improved in their ability to use some of the memory strategies presented, all of them reported satisfaction with the program, suggesting that even education alone can be beneficial for individuals with brain injury.

Results from the groups indicated an increased knowledge baseline of 3.64 to 21.21, with a mean of 17.57. Based on the p-value of 0.0001, $p < 0.05$ the difference is extremely statistically significant.

There was a reported increase in strategies to improve memory; specifically, reminder notes, mental repetition as well as associations.

The general rating of memory problems decreased in severity by .07 out of a scale of 7.

The area that identified the greatest statistically significant improvement for decrease in seriousness was the ability to remember “Appointments” with an improvement of 1.92 and the p-value of 0.0073, $p<0.05$.

Results of the GAD-7 showed a decrease in anxiety of 0.31, while the PHQ-9 showed a greater improvement in depressive symptoms with a mean of 3.08 and a standard deviation of 6.19 to 5.27 from pre to post. Based on the p-value of 0.0162, $p < 0.05$ there is statistically significant evidence that the

level of depression in group participants decreased. Preliminary results show that 100% of the participants would recommend this group to others, and found the information valuable.

The Memory Group provided helpful strategies and lifestyle changes to improve memory deficits, increased insight into individual memory impairments and assisted in decreasing levels of depression.

The outcomes of the groups demonstrated that there is a need for services tailored to individuals with memory problems after a brain injury in Peel, Halton and Dufferin regions.

E. Lessons Learned:

Implementation is a slow, but very valuable process.

Areas of improvement for consideration when offering the Memory and Brain Health program include:

1. To have all the handouts re-numbered so that there are not multiple pages numbered (1), but rather, each chapter and weekly session count up continuously.
2. To modify the weekly curriculum to be at the speed of client comprehension (the later weeks could be combined due to the small amount of information in the curriculum).
3. To have a Neuropsychiatrist attend a group session to answer questions regarding side effects of specific medications, as well as hormone changes in the brain.
4. To offer a post follow-up group with participants to review memory strategies.

3. Recommendations for next steps to support full sustainable implementation

(for your organization, for future implementation projects, for policy, for system organization):

It may be beneficial to map the trajectory and steps needed to accomplish the task of implementation from the very beginning, in particular when working on partnerships with organizations. Additional recommendations include continuing to to offer ongoing educational Memory Groups on an annual basis, as well as the monitoring and implementation of gradual and consistent improvements and the allocation of resources to provide additional staff training, additional program workbooks, etc.

4. What has been done to ensure Sustainability:

We designed the intervention in a manualized manner and are currently working on an agreement with Baycrest to have our intervention available through Baycrest for a minimal cost.

If you want more information about this Project, please contact:

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